

Att'y Dkt. No. US-1310

U.S. App. No: 09/926,299

IN THE CLAIMS:

Kindly rewrite the claims as follows, in accordance with 37 C.F.R. § 1.121 as amended and made effective July 30, 2003:

1. (currently amended) ~~A *Methylophilus* bacterium~~ An isolated strain of *Methylophilus methylotrophus* having L-amino acid-producing ability, wherein L-amino acid biosynthetic enzyme activity is enhanced as compared to a wild-type *Methylophilus methylotrophus* strain.
2. (currently amended) The ~~*Methylophilus* bacterium~~ isolated strain according to claim 1, wherein the L-amino acid is selected from the group consisting of L-lysine, L-valine, L-leucine, L-isoleucine, and ~~or~~ L-threonine.
3. (canceled)
4. (canceled)
5. (currently amended) The ~~*Methylophilus* bacterium~~ isolated strain according to claim 1, wherein dihydrodipicolinate synthase activity and aspartokinase activity are enhanced as compared to a wild-type *Methylophilus methylotrophus* strain, and the bacterium wherein said isolated strain has L-lysine-producing ability.
6. (currently amended) The ~~*Methylophilus* bacterium~~ isolated strain according to claim 1, wherein dihydrodipicolinate synthase activity is enhanced as compared to a wild-type *Methylophilus methylotrophus* strain, and the bacterium said wherein said isolated strain has L-lysine-producing ability.
7. (currently amended) The ~~*Methylophilus* bacterium~~ isolated strain according to claim 1, wherein aspartokinase activity is enhanced as compared to wild-type *Methylophilus*

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Methylophilus strain, and the bacterium wherein said isolated strain has L-lysine-producing ability.

8. (currently amended) The ~~*Methylophilus* bacterium~~ isolated strain according to claim 5, wherein an activity or activities of one, two, or three of enzymes selected from the group consisting of aspartic acid semialdehyde dehydrogenase, dihydrodipicolinate reductase and diaminopimelate decarboxylase is/are enhanced as compared to a wild-type *Methylophilus methylophilus* strain.

9. (currently amended) The ~~*Methylophilus* bacterium~~ isolated strain according to claim 5, wherein the dihydrodipicolinate syntase activity and the aspartokinase activity are enhanced as compared to a wild-type *Methylophilus methylophilus* strain by ~~transformation through~~ introduction into cells, of a DNA coding for dihydrodipicolinate synthase that does not suffer from feedback inhibition by L-lysine and a DNA coding for aspartokinase that does not suffer from feedback inhibition by L-lysine.

10. (currently amended) The ~~*Methylophilus* bacterium~~ isolated strain according to claim 1, wherein activities of aspartokinase, homoserine dehydrogenase, homoserine kinase and threonine synthase are enhanced as compared to wild-type *Methylophilus methylophilus* strain, and the bacterium wherein said isolated strain has L-threonine-producing ability.

11. (canceled)

12. (currently amended) A method for producing an L-amino acid, which comprises culturing a ~~*Methylophilus* bacterium~~ said strain as defined in claim 1 in a medium, to ~~produce and accumulate~~ accumulating said an L-amino acid in said culture medium, and collecting the L-amino acid from said medium ~~the culture~~.

13. (original) The method according to claim 12, wherein the medium contains methanol as a main carbon source.

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14. (withdrawn) A method for producing bacterial cells of a *Methylophilus* bacterium with an increased content of an L-amino acid, which comprises culturing a *Methylophilus* bacterium as defined in claim 1 in a medium to produce and accumulate an L-amino acid in bacterial cells of the bacterium.

15. (withdrawn) A method for producing bacterial cells of the *Methylophilus* bacterium according to claim 14, wherein the L-amino acid is L-lysine, L-valine, L-isoleucine or L-threonine.

16. (withdrawn) A DNA which codes for a protein defined in the following (A) or (B):

- (A) a protein which has the amino acid sequence of SEQ ID NO: 6, or
- (B) a protein which has an amino acid sequences of SEQ ID NO:6 including substitution, deletion, insertion, addition, or inversion of one or several amino acids, and has aspartokinase activity.

17. (withdrawn) The DNA according to claim 16, which is a DNA defined in the following (a) or (b):

- (a) a DNA which has a nucleotide sequence comprising the nucleotide sequence of the nucleotide numbers 510 to 1736 of SEQ ID NO:5; or
- (b) a DNA which is hybridizable with a probe having the nucleotide sequence of the nucleotide numbers 510 to 1736 of SEQ ID NO:5 or a part thereof under a stringent condition, and codes for a protein having aspartokinase activity.

18. (withdrawn) The DNA which codes for a protein defined in the following (C) or (D):

- (C) a protein which has the amino acid sequence of SEQ ID NO: 8, or
- (D) a protein which has an amino acid sequences of SEQ ID NO:8 including substitution, deletion, insertion, addition, or inversion of one or several amino acids, and has aspartic acid semialdehyde dehydrogenase activity.

19. (withdrawn) The DNA according to claim 18, which is a DNA defined in the following (c) or (d):

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- (c) a DNA which has a nucleotide sequence comprising the nucleotide sequence of the nucleotide numbers 98 to 1207 of SEQ ID NO:7; or
- (d) a DNA which is hybridizable with a probe having the nucleotide sequence of the nucleotide numbers 98 to 1207 of SEQ ID NO:7 or a part thereof under a stringent condition, and codes for a protein having aspartic acid semialdehyde dehydrogenase activity.

20. (withdrawn) The DNA which codes for a protein defined in the following (E) or (F):

- (E) a protein which has the amino acid sequence of SEQ ID NO:10, or
- (F) a protein which has an amino acid sequences of SEQ ID NO:10 including substitution, deletion, insertion, addition, or inversion of one or several amino acids, and has dihydrodipicolinate synthase activity.

21. (withdrawn) The DNA according to claim 20, which is a DNA defined in the following (e) or (f):

- (e) a DNA which has a nucleotide sequence comprising the nucleotide sequence of the nucleotide numbers 1268 to 2155 of SEQ ID NO:9; or
- (f) a DNA which is hybridizable with a probe having the nucleotide sequence of the nucleotide numbers 1268 to 2155 of SEQ ID NO:9 or a part thereof under a stringent condition, and codes for a protein having dihydrodipicolinate synthase activity.

22. (withdrawn) The DNA which codes for a protein defined in the following (G) or (H):

- (G) a protein which has the amino acid sequence of SEQ ID NO:12, or
- (H) a protein which has an amino acid sequences of SEQ ID NO:12 including substitution, deletion, insertion, addition, or inversion of one or several amino acids, and has dihydrodipicolinate reductase activity.

23. (withdrawn) The DNA according to claim 22, which is a DNA defined in the following (g) or (h):

- (g) a DNA which has a nucleotide sequence comprising the nucleotide sequence of the nucleotide numbers 2080 to 2883 of SEQ ID NO:11 or

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(h) a DNA which is hybridizable with a probe having the nucleotide sequence of the nucleotide numbers 2080 to 2883 of SEQ ID NO:11 or a part thereof under a stringent condition, and codes for a protein having dihydrodipicolinate reductase activity.

24. (withdrawn) The DNA which codes for a protein defined in the following (I) or (J):

(I) a protein which has the amino acid sequence of SEQ ID NO:14, or

(J) a protein which has an amino acid sequences of SEQ ID NO:14 including substitution, deletion, insertion, addition, or inversion of one or several amino acids, and has diaminopimelate decarboxylase activity.

25. (withdrawn) The DNA according to claim 24, which is a DNA defined in the following (i) or (j):

(i) a DNA which has a nucleotide sequence comprising the nucleotide sequence of the nucleotide numbers 751 to 1995 of SEQ ID NO:13; or

(j) a DNA which is hybridizable with a probe having the nucleotide sequence of the nucleotide numbers 751 to 1995 of SEQ ID NO:13 or a part thereof under a stringent condition, and codes for a protein having diaminopimelate decarboxylase activity.

26. (currently amended) The isolated strain *Methylophilus bacterium* according to claim 6, wherein an activity or activities of one, two, or three of enzymes selected from the group consisting of aspartic acid semialdehyde dehydrogenase, dihydrokippicolinate reductase and diaminopimelate decarboxylase is/are enhanced as compared to a wild-type *Methylophilus methylotrophus* strain.

27. (currently amended) The *Methylophilus bacterium* isolated strain according to claim 7, wherein an activity or activities of one, two, or three of enzymes selected from the group consisting of aspartic acid semialdehyde dehydrogenase, dihydrodipicolinate reductase and diaminopimelate decarboxylase is/are enhanced as compared to a wild-type *Methylophilus methylotrophus* strain.